Cont A2

Further, the nonwoven fabric has the apparent total surface area of the fibers per a surface density of 20 m^2 or more, even though the thickness is as thin as 0.1 mm or less. Therefore, a battery separator having a good electrolyte-holding capacity, particularly, a long-term electrolyte-holding capacity, can be prepared and thus a battery having a long-term lifetime, can be assembled.

Page 18, please replace the first full paragraph with the following new one:

A3

The nonwoven fabric used for the battery separator of the present invention has an apparent total surface area of fibers per a surface density of 20 m^2 or more. Therefore, the nonwoven fabric has an excellent electrolyte-holding capacity and can hold the electrolyte for a long term even if the thickness of the separator is 0.1 mm or less. The apparent total surface area of fibers per a surface density is preferably 22 m^2 or more, more preferably 25 m^2 or more.

Page 26, please replace the first full paragraph with the following new one:

A4

A surface density (g/m^2) is first designed. Then, on the basis of the designed surface density, a fiber combination is determined so that an apparent total surface area of fibers per a surface density of a desired nonwoven fabric becomes 20 m^2 or more. In general, the above requirement is easily satisfied when the fine fibers are contained in a large amount. Further, if non-fibrillated fibers are used as the fibers, a separator having a good uniformity and capable of uniformly holding an electrolyte can be easily prepared. It is preferable to select substantially only polyolefin-based fibers having an excellent resistance to an electrolyte, i.e., preferably the above-mentioned high-modulus fibers, the above-mentioned fine fibers, and the above-mentioned fusible fibers.

Page 29, please replace the first full paragraph with the following new one:

The nonwoven fabric prepared by the above method has a substantially unilayered structure, an apparent total surface area of fibers per a surface density of 20 m^2 or more, and a thickness of 0.1 mm or less. Therefore, when the nonwoven fabric is used as the separator, a A5 battery capable of uniformly holding the electrolyte throughout the separator, and having a low inner pressure and a high capacity can be assembled. Further, a battery having a good electrolyte-holding capacity, particularly, a long-term electrolyte-holding capacity, and thus a long-term lifetime, can be assembled.

Page 34, please replace the third full paragraph with the following new one:

A6 Then, the sulfonated nonwoven fabric was calendared to produce a unilayered-structural separator (surface density = 40 g/m^2, thickness = 0.10 mm, apparent total surface area = 29.8 m^2, the fibers being substantially two-dimensionally arranged, no bundle of the fine fibers).

Page 35, please replace the second full paragraph with the following new one:

Then, 20 mass% of the polypropylene-high density polyethylene mixed fine fibers, 50 A7 mass% of sheath-core type composite fibers, and 30 mass% of polypropylene high-modulus fibers were mixed, and the procedure of Example 1 was repeated to produce a unilayered-structural separator (surface density = 40 g/m^2, thickness = 0.10 mm, apparent total surface area = 29.2 m^2, the fibers being substantially two-dimensionally arranged, no bundle of the fine fibers) wherein the high density polyethylene components of the polypropylene-high density polyethylene mixed fine fibers and the fusible components of the fusible fibers were fused, and sulfonic acid groups were introduced onto the fiber surfaces.

Page 35-36, please replace the third full paragraph with the following new one:

The procedure described in Example 1 was repeated except that, as the fusible fibers, sheath-core type composite fibers (fineness = 0.8 dtex, fiber length = 5 mm, mass ratio of a core component and a sheath component = 1:1, non-fibrillated, drawn) having a core component (non-fusible component) of polypropylene (melting point = 161°C, density = 0.91 g/cm^3), and a sheath component (fusible component) of ethylene-butene-propylene copolymer (melting point = 137°C, density = 0.92 g/cm^3) were used, and a thermal fusion was carried out by a dryer with an internal air circulation at 140°C for 90 seconds, to prepare a unilayered-structural separator (surface density = 40 g/m^2, thickness = 0.10 mm, apparent total surface area = 29.9 m^2, the fibers being substantially two-dimensionally arranged, no bundle of the fine fibers).

A8

Page 37, please replace the second full paragraph with the following new one:

A9

Then, as in Example 1, sulfonic acid groups were introduced to the resulting both-side-fused nonwoven fabric, and the sulfonated fabric was calendared to produce a trilayered-structural separator (surface density = 40 g/m^2, thickness = 0.10 mm, apparent total surface area = 29.8 m^2).

Page 37, please replace the sixth full paragraph with the following new one:

A10

Then, as in Example 1, sulfonic acid groups were introduced to the resulting fused nonwoven fabric, and the sulfonated fabric was calendared to produce a unilayered-structural separator (surface density = 40 g/m^2, thickness = 0.10 mm, apparent total surface area = 15.5 m^2).

A11

Page 43, please replace Table 1 with the following new one:

AMENDMENT
Attorney Docket No.: Q65791

Table 1

	Example 1	Example 2	Example 3	Comparative Example 1	Comparative Example 2
Surface density (g/m^2)	40	40	40	40	40
Thickness (mm)	0.1	0.1	0.1	0.1	0.1
Apparent total surface area (m^2)	29.8	29.2	29.9	29.8	15.5
Uniformity index	0.08	0.09	0.08	0.12	0.14
Maximum pore Size (μm)	20.5	21	20.5	26.9	47.1
Ratio (1)	1.7	1.8	1.7	2	2.2
Void rate (%)	56.8	56.8	56.3	56.8	56.8
Tensile strength (N/5cm width)	73	82	100	96	102
Resistance to penetration (2) (gf)	760 (19)	772 (19.3)	840 (21)	525 (13.1)	552 (13.8)
Electrical resistance (Ω)	0.2	0.23	0.2	0.61	0.26
Holding capacity of liquid under pressure (%)	10.9	9.8	11	8.9	6.5

All

(1): Ratio = (maximum pore size)/(mean flow pore size)
(2): Average resistance to needle-penetration per unit surface density in parentheses

Cont A11

Page 44, please replace the first full paragraph with the following new one:

A12

The battery separator of the present invention has a substantially unilayered structure, and thus can uniformly hold the electrolyte. Therefore, a battery having a low inner pressure and a high capacity can be assembled therefrom. Further, the battery separator of the present invention has an apparent total surface area of fibers per a surface density of 20 m^2 or more, even though the thickness is 0.1 mm or less. Therefore, a battery having a good electrolyte-holding capacity, particularly a long-term electrolyte-holding capacity, and thus a long-term lifetime, can be assembled.

IN THE CLAIMS:

Please enter the following amended claims:

A13

1. A battery separator consisting essentially of a nonwoven fabric having a substantially unilayered structure, wherein an apparent total surface area of fibers per a surface density of said nonwoven fabric is 20 m^2 or more, a thickness of said nonwoven fabric is 0.1 mm or less, a uniformity index of said nonwoven fabric is 0.15 or less, and said nonwoven fabric contains fine fibers having a fiber diameter of 4 μm or less.